

EXHIBIT 4

Highly Confidential – Attorneys’ Eyes OnlyIn Re National Prescription Opiate Litigation – Track 1
Expert Report of John J. MacDonald III**Table 4: Percentage of McCann Flagged Cardinal Dosage Units Affected by Contextual Analysis (2006-2017)**

Contextual Analysis	Description	% of McCann’s Six-Month Trailing Method (Dosage Units)	% of Any Method (Dosage Units)
Shipments captured by McCann “carry-forward” rule	Captured because a prior shipment violated the criteria (i.e., not based on the shipment itself)	94.3%	31.8%
Hydrocodone Rescheduling	Captured because no adjustment for hydrocodone rescheduling	5.0%	19.2%
Size of Pharmacy	Captured despite less than 22% of customer’s shipped volume was controlled substances	84.0%	82.3%
Proximity to a Hospital	Captured despite pharmacy being located in close proximity to a hospital	26.9%	28.3%
Hospital Contractual Relationship	Captured despite pharmacy having a 340B relationship with hospital	8.6%	8.4%
Total Percentage of McCann’s Analysis Affected by Contextual Analysis		99.6%	95.5%

A. Review Each Order as a Stand-Alone Shipment

82. As described above, each of McCann’s methods identifies not just shipments above his defined threshold for the month being analyzed, but also all subsequent shipments for a

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customer after a single flagged shipment.⁸⁴ For instance, if a shipment in January 2006 exceeded the volume threshold identified by McCann’s method, all subsequent shipments of that drug to the same customer are flagged. This “carry-forward” assumption drives a majority of McCann’s flagged shipments under the six-month trailing method, over 94% of which would fall below his monthly thresholds if evaluated on a monthly basis.⁸⁵

83. To quantify the effect of this assumption on McCann’s results, I have implemented his methods without the carry-forward assumption (i.e., only identifying the particular shipments that would be above the monthly thresholds). The results indicate that in many cases, McCann is not identifying “orders of unusual size;” rather, he is flagging customers and capturing all of their product shipments after a certain date. For example, the results of the six-month trailing method appear to identify a large number of shipments exceeding the identified threshold, however, when the carry-forward rule is eliminated, even under McCann’s methodology, only about 5% of Cardinal doses shipped would be identified. Table 5 below describes the impact of removing the carry-forward rule for each of McCann’s methods.

Table 5: Comparison of Percentage of Cardinal Transactions Flagged When Removing Carry-Forward (2006-2017)⁸⁶

McCann Method	% Flagged - McCann Method	% Flagged - Remove Carry-Forward	% of McCann Flagged Dosage Units Affected
Six-Month Trailing	92.9%	5.3%	94.3%
Two Times Trailing Twelve-Month	79.6%	21.8%	72.6%
Three Times Trailing Twelve-Month	57.6%	12.5%	78.3%
8,000 Monthly Maximum	70.5%	29.8%	57.8%
Maximum Daily Dosage Units	93.6%	58.5%	37.4%
<i>Any McCann Method</i>	<i>98.0%</i>	<i>66.8%</i>	<i>31.8%</i>

84. An issue specific to Cardinal is that the company produced data back to 1996 whereas complete data is not consistently available for other distributors until 2006. Because

⁸⁴ “In this approach and the others implemented below I have been asked by Counsel to assume that the Distributor did not effectively investigate the flagged transactions and so every subsequent transaction of that drug code is also flagged.” McCann Report, ¶¶ 132, 136, 140, 144, 148.

⁸⁵ See Table 5.

⁸⁶ McCann Dataset.